

## Abstract

A device and a method are described for bidirectional single-wire data transmission of information between a control unit 2 and at least one peripheral unit 3, having the following steps: generating a first current flow from the control unit 2 to the peripheral unit 3 during first time slots via a single-wire line 4 to transmit voltage-coded or current-coded information from the control unit 2 to the peripheral unit 3; and/or generating a second current flow from the peripheral unit 3 to the control unit 2 during second time slots via the single-wire line 4 to upload voltage-coded or current-coded information from the peripheral unit 3 to the control unit 2; the first and second time slots being implemented so they do not mutually overlap; and/or generating, in the first and/or second time slots, additional information to be transmitted and/or uploaded, which is transmitted as digital or analog signals by modulating the current or the voltage of the single-wire line 4 and is analyzed in the control unit 2 or the peripheral unit 3.

(Figure 1)